

Non-invasive inner pressure measurement in elastic vessels deformed by external application of force

Patent number: DE19747254
Publication date: 1999-05-06
Inventor: SILBER GERHARD PROF DR ING (DE)
Applicant: SILBER GERHARD PROF DR ING (DE)
Classification:
- **international:** G01L7/02; G01L15/00
- **european:** G01L9/00A; A61M5/168D4
Application number: DE19971047254 19971025
Priority number(s): DE19971047254 19971025

Abstract of DE19747254

Non-invasive inner pressure measurement in elastic vessels comprises deforming a vessel e.g. a pipe (1) by the application of an external force and measuring a reaction force $F_s(t)$ is measured. The inner pressure $p(t)$ is determined from the following equation: $p(t) = k_0 + k_1 (F_s(t) - R(t))$ In which k_0, k_1 are polynomial coefficients, $F_s(t)$ is the measured reaction force and $R(t)$ a relaxation function of the vessel.

B WPI

18dec01 13:09:57 User268673 Session D3.2
Sub account: 0112713-00187
\$0.00 0.063 DialUnits FileHomeBase
\$0.00 Estimated cost FileHomeBase
\$0.11 INTERNET
\$0.11 Estimated cost this search
\$0.19 Estimated total session cost 0.290 DialUnits

File 351:Derwent WPI 1963-2001/UD,UM &UP=200174

(c) 2001 Derwent Info Ltd

***File 351: Price changes as of 1/1/01. Please see HELP RATES 351.**
72 Updates in 2001. Please see HELP NEWS 351 for details.

Set	Items	Description
---	-----	

?

B WPI

18dec01 13:10:03 User268673 Session D3.3
Sub account: 0112713-00187
\$1.67 0.071 DialUnits File351
\$1.67 Estimated cost File351
\$0.01 INTERNET
\$1.68 Estimated cost this search
\$1.87 Estimated total session cost 0.361 DialUnits

File 351:Derwent WPI 1963-2001/UD,UM &UP=200174

(c) 2001 Derwent Info Ltd

***File 351: Price changes as of 1/1/01. Please see HELP RATES 351.**
72 Updates in 2001. Please see HELP NEWS 351 for details.

Set	Items	Description
---	-----	

?

S PN=DE 19747254

S1 1 PN=DE 19747254

?

T S1/5

1/5/1

DIALOG(R)File 351:Derwent WPI
(c) 2001 Derwent Info Ltd. All rts. reserv.

012482887 **Image available**

WPI Acc No: 1999-288995/199925

XRPX Acc No: N99-215806

Non-invasive inner pressure measurement in elastic vessels deformed by external application of force

Patent Assignee: SILBER G (SILB-I)

Inventor: SILBER G

Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 19747254	A1	19990506	DE 1047254	A	19971025	199925 B

DE 19747254 C2 20000113 DE 1047254 A 19971025 200007

Priority Applications (No Type Date): DE 1047254 A 19971025

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 19747254	A1		6	G01L-007/02	
DE 19747254	C2			G01L-007/02	

Abstract (Basic): DE 19747254 A1

NOVELTY - Non-invasive inner pressure measurement in elastic vessels comprises deforming a vessel e.g. a pipe (1) by the application of an external force and measuring a reaction force $F_s(t)$ is measured.

The inner pressure $p(t)$ is determined from the following equation:

$p(t) = k_0 + k_1 (F_s(t) - R(t))$ In which k_0, k_1 are polynominal coefficients, $F_s(t)$ is the measured reaction force and $R(t)$ a relaxation function of the vessel.

USE - For non-invasive inner pressure measurement in elastic vessels e.g. bags, hoses and flexible tubes.

ADVANTAGE - Measurement is simplified, time needed for measurement is reduced and faults due to creepage can be excluded by using the relaxation function.

DESCRIPTION OF DRAWING(S) - The drawing shows a schematic representation of the measuring system.

Elastic vessel under test (1)

pp; 6 DwgNo 1/2

Title Terms: NON; INVADE; INNER; PRESSURE; MEASURE; ELASTIC; VESSEL; DEFORM ; EXTERNAL; APPLY; FORCE

Derwent Class: S02

International Patent Class (Main): G01L-007/02

International Patent Class (Additional): G01L-015/00

File Segment: EPI

?